AMENDMENTS

In the Abstract

Please replace the existing Abstract of the Disclosure with the following:

ABSTRACT OF THE DISCLOSURE

A method for ~~providing for an efficient unconstrained and nonlinear constrained optimization solution to~~ the ~~multivariate~~ allocation of resources ~~to meet manufacturing needs for uncertain multiproduct demand, where uncertainty is captured through a multivariate normal distribution over product demand (or more generally, any member of the elliptical family of distributions)~~. A series of products ([[or]] refinements) is arranged in a product space plan (PSP) according to connectivities between the products and associated components ([[or]] resources) ~~which might go to make up the product~~. An expected value function is derived for the plan, and ~~is thereafter~~ converted into a closed form expression. The ~~product space plan~~ PSP is transformed into a working space plan (WSP) having corresponding elements for each product~~, the transformation process using for instance an inverse Cholesky transformation~~. A loading step is applied to the ~~working space plan~~ WSP wherein each element is sequentially analyzed to determine if an associated component gates production of that product. Each element is loaded ~~accordingly~~, with components being unloaded from prior elements if a subsequent element is gated. A reloading step ~~is thereafter applied which~~ redetermines if any elements are gated by a component that might have been unloaded from the element. If the element ~~is still~~ remains gated, ~~then~~ the elements ~~which share~~ sharing the component are merged into a sub-plan, which can be maximized as a function of a single variable. ~~The resulting sub-plans (or blocks) represent an equilibrium configuration with parts that can each be maximized over a single variable. These maximizations can thereafter be used to find the optimum level of components to produce the maximum level of products.~~

Serial No.: 09/491,461